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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/669,813	09/26/2000	Timothy M. Schmidl	TI-29351	3706

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1	EXAMINER
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BURD, KEVIN MICHAEL

ART UNIT	PAPER NUMBER
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2631

DATE MAILED: 11/07/2003

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/669,813

Applicant(s)

SCHMIDL ET AL.

Examiner

Kevin M Burd

Art Unit

2631

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 26 September 2000.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-28 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-6 and 9-28 is/are rejected.
- 7) ☒ Claim(s) 7 and 8 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 26 September 2000 is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

Drawings

1. Figure 1 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

2. Claims 1-6 and 9-28 are rejected under 35 U.S.C. 102(a) as being anticipated by the instant application's disclosed prior art.

Regarding claims 1 and 24, the instant application's disclosed prior art discloses a WCDMA system (page 1, lines 3-7). WCDMA systems operate in wireless environments and transmit wireless signals from transmitter to receivers. It is inherent that these receivers comprise at least one antenna. The receiver will receive a plurality of frames wherein each frame comprises a plurality of slots (page 4, lines 6-14). The time slots comprise symbols and the symbols comprise paths (page 4, lines 17-21). Circuitry is disclosed for correlating a primary synchronization code (page 4, lines 6-8). One or more paths within the evaluated time period are found to have relatively large

PSC correlations and the positions of these paths are used to identify the timing of the incoming frames (page 4, lines 17-20 and figure 1). Continuing with the prior art, the user station defines a time slot window 10 shown in figure 1 and a search window 20, where typically search window 20 is a time period centered about a path P1 (page 5, lines 4-7 and figure 1). The receiver identifies a number of paths corresponding to the respective peak locations of spectrum 30, and those paths are then further processed so that diversity may be exploited toward recovering the actual symbols from the various paths such as combining those paths (page 5, lines 16-19). This search window is on the order of one-tenth the duration of the time slot window 10 (page 5, lines 7-9). A plurality of search windows will appear in the time slot windows and in the overall frame.

Regarding claims 2-4 and 25, a joint detector that includes a rake receiver and an equalizer function combines the various identified paths (page 5, lines 23-26). The rake receiver despreads the signal.

Regarding claims 5 and 6, the time slot consists of symbol information and the search window is on the order of one-tenth the duration of the time slot window 10 (page 5, lines 7-9).

Regarding claims 9, 17 and 26, a delay profile estimation is conducted across each sample position in each search window and the selected paths are selected in response to the delay profile estimation (page 5, lines 13-19).

Regarding claims 10-12, 18 and 27, the delay profile estimation correlates the primary synchronization code and the secondary synchronization code to identify the

timing of incoming frames (page 4, lines 17-21) and identify unique base stations (page 4, lines 24-30).

Regarding claims 13, 19 and 28, the number of sample positions in the search window is less than the number of sample positions in the entire time slot window (figure 1).

Regarding claims 14-16, a joint detector that includes a rake receiver and an equalizer function combines the various identified paths (page 5, lines 23-26). The rake receiver despreads the signal.

Regarding claim 20, the frames comprise time division duplex frames (page 5, lines 22-26).

Regarding claim 21, the frames comprise frequency division duplex frames (page 5, lines 22-26).

Regarding claim 21, the receiver comprises a CDMA receiver (page 3, lines 1-27).

Regarding claim 23, the receiver comprises a WCDMA receiver (page 2, lines 3-20).

Allowable Subject Matter

3. Claims 7 and 8 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

4. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Ostberg et al (US 6,504,830) and Sarkar (US 6,363,060) disclose WCDMA systems comprising windows for correlating primary and secondary synchronization codes. Popovic discloses a system used in WCDMA including delay profile estimators for estimating the impulse response of symbols in search windows.

Contact Information

Any response to this action should be mailed to:

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or faxed to:

(703) 872-9314, (for formal communications intended for entry or for informal or draft communications, please label "PROPOSED" or "DRAFT")

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington, VA., Sixth Floor (Receptionist).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kevin Burd, whose telephone number is (703) 308-7034. The Examiner can normally be reached on Monday-Thursday from 9:00 AM - 6:00 PM.

Any inquiry of a general nature or relating to the status of this application should be directed to the Group receptionist whose telephone number is (703) 305-3800.


Kevin M. Burd
PATENT EXAMINER
10/30/03